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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/649,190 | 08/28/2000 | Paul V. Cooper | 23438.00023 | 7535 |

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04/18/2003

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EXAMINER

KASTLER, SCOTT R

ART UNIT PAPER NUMBER

1742

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/649,190

Applicant(s)

COOPER, PAUL V.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25,31-48,50 and 53-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25,31-37 and 53-56 is/are allowed.
- 6) ☒ Claim(s) 38-44,47,48,50 and 57-60 is/are rejected.
- 7) ☒ Claim(s) 45 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4-9-2003 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 38-44, 47, 48, 50 and 57-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Cooper'045 or Dube in view of Mordue et al'211. Cooper'045 teaches a scrap metal melting device including a graphite impeller (162 for example) with blades including an angled portion (161) which directs molten metal downwardly, and a portion (160) which directs molten metal outwardly, connected to a drive shaft (200) connected to a drive source (300) where "means for connecting an impeller to a shaft" is defined in the specification at page 5, lines 23-24 as "any structure capable of connecting impeller 100 to drive shaft 12.", and "means for generating a flow of molten metal" is met by the impeller of Cooper'045, although the impeller (100) of Cooper'045 also meets the requirements of an "open impeller" as defined by the originally filed specification as impellers which allow scrap and dross to pass

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through the impeller (see the specification, page 5 lines 8-11 for example), thereby showing all aspects of the above claims except to specifically recite the instantly claimed impeller configurations, (although the impellers of each of Cooper'045 and Dube operate in substantially the same manner for the same purpose as instantly claimed) or the provision that the connection of the impeller to the drive shaft be made through the use of a non-threaded tapering section extending through the impeller. It has been well settled that absent any demonstrated new or unexpected results arising therefrom, motivation to alter the configuration of a component shown by the applied prior art without materially altering the function of said component, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. See *In re Dailey*, 149 USPQ 47. In the instant case, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because one of ordinary skill in the molten metal impeller art would have found it an obvious modification to alter the shapes or configurations of the impeller blades of either of Cooper'045 or Dube to any desired configuration, including those instantly claimed, as long as the impeller functions in the manner required by Cooper'045 or Dube. With respect to the provision that the connection of the impeller to the drive shaft be made through the use of a non-threaded tapering section extending through the impeller, Mordue et al'211 teaches that connection of the impeller (13) to a drive shaft (1) of a molten metal mixing device through the use of a non-threaded shaft and impeller section extending through the impeller, in which the section may take any desired form, including the form of a tapered bore (see col. 4 lines 52-61, where Mordue et al'211 allows for the use of any desired configuration of the end (26)) is known in the molten metal mixing art, and that such an arrangement provides for improved connections when compared with

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conventional connections used in connecting impellers to drive shafts (see col. 1 line 65 to col. 2 line 17 for example). Because improved connection of the impeller to the derive shaft would also be desirable in each of Cooper'045 and Dube, motivation to employ the improved connection system described by Mordue et al'211 in the systems described by either of Dube or Cooper'045 would also have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

Claims 25, 31-37 and 53-56 are allowed.

Claims 45 and 46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed on 4-9-2003 have been fully considered but they are not persuasive. Applicant's arguments that Mordue et al'211 does not encompass the use of a non-threaded tapered bore for receiving the end of the drive shaft is not persuasive because, as stated in the above rejection, Mordue et al clearly recites, at col. 4, lines 52-61 for example, that the non-threaded connection can take any desired configuration, including "non-cylindrical forms", which includes tapered forms.

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Applicant's further argument that since Dube does not recite any means for connecting the impeller to the shaft of Dube, then it would not have been obvious to employ the connection means recited in Mordue et al to connect the components of Dube is also not persuasive. Again, as stated in the above rejection, since the components of Dube must be connected in some manner, motivation to employ the improved connection system described by Mordue et al'211 in the system described by Dube would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

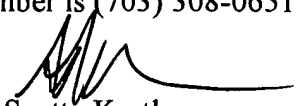
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will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (703) 308-2506. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-3050. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Scott Kastler
Primary Examiner
Art Unit 1742

sk
April 17, 2003